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March 2007

# DEFENSE INVENTORY

## Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts



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March 2007

## DEFENSE INVENTORY

# Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts

### Why GAO Did This Study

GAO has identified the Department of Defense's (DOD) management of its inventory as a high-risk area since 1990 due to ineffective and inefficient inventory systems and practices. Management of inventory acquisition lead times is important in maintaining cost-effective inventories, budgeting, and having material available when needed, as lead times are DOD's best estimate of when an item will be received. Under the Comptroller General's authority to conduct evaluations on his own initiative, GAO analyzed the extent to which (1) DOD's estimated lead times varied from actual lead times, and (2) current management actions and initiatives have reduced lead times as compared to past years. To address these objectives, GAO computed the difference between the components' actual and estimated lead times, and compared component initiatives to reduce lead times for 1994-2002 to 2002-2005.

### What GAO Recommends

GAO recommends that DOD take actions to improve the accuracy and strengthen its management of lead times, such as review lead time data to detect and correct errors, review and revise the methodology used for setting lead times, set lead time reduction goals, and direct the components to measure and report the impact of initiatives to reduce overall lead times within each of the military components. In its comments, DOD generally concurred with nine and nonconcurred with two of our recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-07-281](http://www.gao.gov/cgi-bin/getrpt?GAO-07-281).

To view the full product, including the scope and methodology, click on the link above. For more information, contact William M. Solis at (202) 512-8365 or [solisw@gao.gov](mailto:solisw@gao.gov).

### What GAO Found

The military components' estimated lead times to acquire spare parts varied considerably from the actual lead times experienced. The effect of the lead time underestimates was almost \$12 billion in spare parts arriving more than 90 days later than anticipated, which could negatively affect readiness rates because units may not have needed inventory. If orders had been placed earlier, readiness rates could potentially have been improved. While having spare parts arrive earlier than estimated could potentially improve readiness, the effect of lead time overestimates resulted in obligating almost \$2 billion more than 90 days earlier than necessary. As the table shows, the Army underestimated lead times, DLA overestimated lead times, and the Air Force and Navy both overestimated and underestimated lead times.

Acquisition Lead Time Difference for FY 2005 Deliveries (in percentages)

	> 90 days early	> 1 week to 90 days early	Up to 1 week early – Up to 1 week late	> 1 week to 90 days late	> 90 days late	Total number of deliveries
Air Force	23.8	15.7	3.0	15.2	42.3	18,335
Army	11.8	9.7	4.6	15.3	58.5	9,380
Navy	39.3	17.0	3.0	12.7	27.9	19,304
DLA	39.5	45.7	5.0	6.7	3.0	1,031,779
<b>Total</b>	<b>39.0</b>	<b>44.4</b>	<b>5.0</b>	<b>7.0</b>	<b>4.6</b>	<b>1,078,798</b>

Source: GAO analysis of components' delivery order information.

The variances were due to problems such as miscoding late deliveries as not representative of future delivery times, lack of recorded lead time data, data input errors, estimates that did not reflect improvements made in actual lead times, and the use of standard default data instead of other data that may have been obtainable. Absent actions to address these problems, lead time estimates will continue to vary from actual lead times and will contribute to inefficient use of funds and potential shortages or excesses.

The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD (AT&L)) and the components' actions and initiatives to reduce lead times from 2002 to 2005 were less effective overall than previous efforts from 1994 to 2002. From 2002 to 2005, DOD-wide lead times were reduced by an average of 0.9 percent annually as compared to an average reduction of 5.6 percent annually from 1994 to 2002, potentially leading to an additional \$2.7 billion in lead time requirements, tying up money that could have been obligated for other needs. The higher rate of reduction from 1994 to 2002 can be attributed to three areas of focus: streamlining internal administrative processes, oversight from USD (AT&L), and developing strategic relationships with suppliers. However, from 2002 to 2005, USD (AT&L) no longer provided active oversight such as establishing lead time reduction goals, reporting metrics, reporting the impact of specific initiatives, or estimating the financial impact of reduced lead times, as had been done previously. Until steps are taken to renew management focus on reducing lead times, the components may continue to experience spare parts shortages and increased inventory levels to cover lead times.

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## **Figure**

**Figure 1: Potential Impact of Reduced Lead Time Inventory Requirements**

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### **Abbreviations**

DLA	Defense Logistics Agency
DOD	Department of Defense
USD (AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
TACOM	Tank-Automotive and Armaments Command

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**United States Government Accountability Office  
Washington, DC 20548**

March 2, 2007

The Honorable Carl Levin  
Chairman  
The Honorable John McCain  
Ranking Minority Member  
Committee on Armed Services  
United States Senate

The Honorable Ike Skelton  
Chairman  
The Honorable Duncan L. Hunter  
Ranking Minority Member  
Committee on Armed Services  
House of Representatives

The Department of Defense (DOD) maintains a military force with diverse capabilities but continues to confront a pervasive, decades-old supply chain management problem that relates to retaining the appropriate amount of inventory. The fundamental premise of supply chain management is the operation of a continuous, unbroken, comprehensive, and all-inclusive logistics process, from initial customer order for materiel or services to the ultimate satisfaction of the customer's requirements. Supply chain management in DOD consists of processes and activities to purchase, produce, and deliver materiel to a force that is highly dispersed and mobile. Supply support to the warfighter affects readiness and military operations. In fact, the supply chain can be the critical link in determining whether our frontline military forces win or lose on the battlefield. Given the high demand for goods and services to support ongoing U.S. military operations, the investment of resources in the supply chain is substantial. DOD reported that, as of September 30, 2005,<sup>1</sup> it owned about \$80 billion of secondary inventory of spare parts.<sup>2</sup> This represents a \$17 billion, or 27

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<sup>1</sup> This was the most up-to-date information available during our review.

<sup>2</sup> DOD's secondary inventory consists of a wide variety of parts that includes communication and detection equipment; electrical and electronic equipment components; engines, turbines, and their components; aircraft components and accessories; instruments and laboratory equipment; aircraft and airframe structural components; fire control equipment; guided missiles; electric wire and power and distribution equipment; medical supplies; and clothing and textiles.

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percent, increase since fiscal year 2001, when the department reported about \$63 billion in inventory.

Critically important to maintaining cost-effective inventories, budgeting, and having materiel available when it is needed is the development of successful processes that identify and manage acquisition lead times for the purchase of parts for equipment and weapon systems. Acquisition lead time, also known as procurement lead time,<sup>3</sup> measures the length of time between the initiation of a procurement action and the receipt of items into the supply system. DOD's management of its acquisition lead times affects whether DOD and its military components<sup>4</sup> have the right quantities of the right items at the right locations at the right time to meet customer needs. Generating lead time estimates is a protracted and complex process that requires DOD inventory managers to project, in some cases, parts usages over several years, which can decrease forecast accuracy and reduce DOD's flexibility to react to changes in demand. Additionally, long-standing data problems, internal control weaknesses, and noninteroperable business systems within DOD further complicate the process of generating accurate acquisition lead time estimates.

Since 1990, we have reported on weaknesses in DOD's supply chain management in our high-risk reports. In 1994, we reported<sup>5</sup> that DOD had made only limited progress in reducing acquisition lead times because its initiatives had been unevenly implemented by the military components. We recommended that DOD renew emphasis on implementing lead time reduction initiatives, review and update certain lead time data, and give consideration to buying items directly from the manufacturers instead of from contractors. DOD partially concurred with each of our findings and recommendations. In addition to our review, a 1998 DOD Inspector General report<sup>6</sup> reviewed initiatives underway at that time to improve acquisition lead times. The report concluded that the military components had made progress in reducing acquisition lead times and pointed out that

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<sup>3</sup> Hereafter, we will refer to the term as acquisition lead time.

<sup>4</sup> For purposes of this report, DOD's military components are defined as the Army, Navy, Air Force, and the Defense Logistics Agency (DLA).

<sup>5</sup> GAO, *Defense Supply: Acquisition Leadtime Requirements Can Be Significantly Reduced*, GAO/NSIAD-95-2 (Washington, D.C.: Dec. 20, 1994).

<sup>6</sup> Department of Defense Inspector General, *Initiatives to Improve Acquisition Lead Time*, Report Number 99-037 (Nov. 23, 1998).

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reducing acquisition lead times decreases inventory levels and associated inventory holding costs, thus freeing up funds for other uses. The DOD Inspector General report contained no recommendations.

Because of the potential effects of DOD's management of acquisition lead times on readiness and inventory expenditures and because of the continued weaknesses in DOD's supply chain management that we had identified, we performed this engagement under the Comptroller General's authority to conduct evaluations on his own initiative. We are providing this report to you because of your committee's oversight responsibilities. Our objectives were to determine the extent to which (1) DOD's estimated lead times varied from the actual lead times experienced, and (2) current management actions and initiatives have reduced lead times as compared to past years.

To compare and analyze the estimated to actual lead times, we (1) obtained and reviewed the military components' regulations and directives on the policies, procedures, and processes used in computing and maintaining acquisition lead times and interviewed relevant officials; (2) obtained from each of the military components the estimated and actual acquisition lead time values for all of the more than one million orders valued at almost \$19 billion of spare parts that they received during fiscal year 2005; and (3) computed the differences between the estimated and actual lead time for each order. Each order's variance was then categorized according to how closely the estimate approximated the actual lead time, ranging from no variance to more than 90 days off as we believe this interval was an appropriate measure to use in our analyses. We then calculated overall statistics to show the extent to which the military components accurately estimated the actual lead times. We also calculated the effect in dollars for spare parts where the estimates were longer or shorter than the actual lead times. We assessed the reliability of DOD's acquisition lead time data by obtaining information from the components' management of their data reliability procedures. We determined that the data obtained from DOD's automated systems were sufficiently reliable for the purposes of this report. Further, to compare the management actions and initiatives to reduce lead times, we reviewed relevant documents regarding efforts, policies, and initiatives to reduce lead times and interviewed officials from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD (AT&L)) and each of the military components. We conducted our review from November 2005 through November 2006 in accordance with generally accepted government auditing standards. For more detailed information on our scope and methodology, see appendix I.

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## Results in Brief

The military components' estimated lead times to acquire spare parts varied considerably from the actual lead times they experienced. DOD's Supply Chain Materiel Management Regulation<sup>7</sup> provides guidance for developing materiel requirements based on customer expectations while minimizing the investment in inventories. Further, accurate lead time estimates are critically important in enabling the military components to have the proper amount of inventory on hand. However, rarely (5 percent) did the components' acquisition lead time estimates come within a week of the actual lead times, while about 44 percent of the lead time estimates varied either earlier or later than the actual lead times by at least 90 days. The combined effect of the understated lead time estimates for all the components was slightly over \$12 billion in spare parts arriving more than 90 days later than anticipated, which has the potential for negatively affecting readiness rates because units may not have the necessary inventory to support and sustain ongoing military operations. If orders had been placed and funds obligated earlier, in some instances readiness rates could potentially have been improved. Further, the combined effect of the overstated lead time estimates for all the components resulted in them obligating almost \$2 billion more than 90 days earlier than necessary, although spare parts that come in early could potentially improve readiness.

- Of the 9,380 Army deliveries we reviewed, we found that 58 percent (valued at \$10.6 billion) had actual lead times longer than estimated by at least 90 days due to such problems as miscoding of late deliveries as not representative of future deliveries, lack of lead time data in one of its computer systems, and data input errors that caused the Army to underestimate lead times and receive items later than expected.
- Conversely, we found that almost 40 percent of the estimated lead times for the 1,031,779 DLA deliveries we reviewed<sup>8</sup> (valued at \$568.8 million) were overstated by at least 90 days and did not accurately reflect the improvements made in actual lead times because the methodology DLA used for computing lead times had not been reviewed or revised to reflect recent improvements due to the use of long-term contracts.

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<sup>7</sup> Office of the Deputy Under Secretary of Defense for Logistics and Materiel Readiness, *Department of Defense Supply Chain Materiel Management Regulation*, DOD 4140.1-R (May 2003).

<sup>8</sup> The majority of the items we reviewed belonged to DLA, which manages more than 5 million items. These items tend to be smaller, less expensive consumable products as compared to the items managed by the military components.

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- Of the 18,335 Air Force deliveries we reviewed, we found that more than 42 percent (valued at \$155.2 million) had actual lead times longer and about 24 percent had actual lead times shorter than estimated by at least 90 days due, in part, to the use of standard default data instead of other data that may have been obtainable, such as data from the suppliers.
  - Additionally, of the 19,304 Navy deliveries we reviewed, we found that about 28 percent had actual lead times longer and almost 40 percent (valued at \$164.9 million) had actual lead times shorter than estimated by at least 90 days due to such problems as data input errors.

Absent actions by the military components to address these problems and institute corrective procedures, DOD's acquisition lead time estimates will continue to vary greatly from the actual lead times and will contribute to inefficient use of funds and potential inventory shortages or excesses.

USD (AT&L) and the military components' management actions and initiatives to reduce acquisition lead times from 2002 to 2005 were less effective overall than previous actions and initiatives from 1994 to 2002. DOD regulations state that the components should aggressively pursue the lowest possible acquisition lead times. However, from 2002 to 2005, DOD-wide lead times were reduced by an average of 0.9 percent annually as compared to an average reduction of 5.6 percent annually from 1994 to 2002. The USD (AT&L) and the components' management actions and initiatives were more effective from 1994 to 2002 than they were from 2002 to 2005 because they placed greater emphasis on three areas that contributed to the higher rate of lead time reduction: streamlining internal administrative processes, improving oversight, and developing strategic relationships with suppliers. First, from 1994 to 2002, each of the military components began new initiatives to streamline administrative processes. While all components continued these initiatives from 2002 to 2005, the Army and the Navy reduced focus on these initiatives and were less aggressive than the DLA and the Air Force in implementing new initiatives to reduce lead times. For example, DLA and the Air Force reduced their lead times by an average of 3.3 and 4.1 percent annually, respectively, while the Army's average lead times increased and the Navy's were unchanged. Second, in 1994, USD (AT&L) began providing enhanced oversight to acquisition lead times, but by 2002 it was no longer providing active oversight. For example, from 2002 to 2005, USD (AT&L) did not establish lead time reduction goals, require reporting of metrics to measure reductions in lead times, collect data to report the impact and costs of specific initiatives on lead times, or measure and provide estimates of the financial impact of reduced lead times, as had been done

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previously. USD (AT&L) officials stated that they no longer provided oversight because management focus shifted from reducing lead times to improving performance on broader metrics, such as backorders.

Component officials stated that because USD (AT&L) placed less emphasis on lead times from 2002 to 2005, their organizations also placed less emphasis on lead time reductions. Officials suggested that renewed emphasis on lead time reduction by USD (AT&L) could increase the components' management focus on reducing lead times. Third, all military components were able to reduce lead times from 1994 to 2002 by implementing initiatives that developed relationships with suppliers, such as using long-term contracts and other innovative practices. However, unlike the Air Force and the DLA, the Army and the Navy have not begun any new initiatives to improve strategic relationships with suppliers to help reduce lead times from 2002 to 2005. The military components could have decreased inventory requirements and potentially saved hundreds of millions of dollars if more aggressive lead time reductions had been realized from 2002 to 2005, as they had from 1994 to 2002. As a result of the reduced rate of lead time reduction from 2002 to 2005, lead time requirements are up to \$2.7 billion higher than they would have been if the lead time reduction rate had remained constant, thus tying up money that could have been obligated for other needs. Until USD (AT&L) and the components take steps to renew their focus on reducing lead times by aggressively continuing prior initiatives and implementing successful new initiatives, the components may continue to experience spare parts shortages and may spend significantly more money to purchase additional inventory.

To improve the accuracy in setting acquisition lead time values, we are recommending that the Army take steps to determine when lead time values are representative and should be updated, and update and maintain automated lead time data in computer systems; the Army and Navy review and validate lead time data to detect and correct errors; DLA review and update the methodology used for updating lead times; and the Air Force evaluate sources of lead time values. To strengthen management of lead times, we are recommending that USD (AT&L) establish lead time reduction goals, develop metrics to measure progress in meeting lead time reduction goals, develop an estimate of the financial impact of lead time reductions, direct the military components to measure and report to it on the results and costs of individual initiatives to reduce overall lead times, and work closely with the Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times.

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In written comments on a draft of this report, DOD generally concurred with 9 of our 11 recommendations. DOD identified actions that it is taking or plans to take to implement these recommendations, and, for most of them, we agree that its actions are responsive and reasonably address our findings. However, DOD did not concur with 2 of our 11 recommendations, the first being our recommendation for DLA to review and revise the methodology used to update lead times. The department stated that we used data from DLA's legacy computer system in our review, which did not have the benefit of DLA's newly implemented computer system. We believe that our recommendation remains valid because the basic methodology for calculating lead times remains the same between DLA's old and new computer systems. Therefore, improvements in the accuracy of DLA's lead time estimates seem unlikely to result from the use of the old methodology in the new computer system. DOD also did not concur with our recommendation for USD (AT&L) to work closely with the Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times, stating that it is actively pursuing a joint strategy to develop strategic relationships and that to instruct the services to develop strategic relationships separately would lead to a duplication of effort. We believe that DOD may have misinterpreted our recommendation as having these services independently pursue strategic supplier relationships without USD (AT&L) oversight. However, our recommendation was not for the Army and Navy to develop strategic relationships separately but for USD (AT&L) to work closely with them to develop these relationships. Therefore, we believe that this recommendation remains valid. The department's comments are reprinted in appendix II, and our response to its comments appears at the end of this report.

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## Background

The basic challenge of inventory management is having the proper amount of items on hand when required—neither too much nor too little. If inventory levels are too low, DOD and its components may experience supply shortages and be unable to satisfy customer demands. This could result in DOD undertaking costly and often wasteful efforts to recover from being out of stock. If inventory levels are too high, money is invested on items that may never be used. Additionally, a series of unnecessary expenditures is incurred for more warehouses, transportation, and personnel; storage and distribution facilities become more crowded; maintenance workloads may increase; and inventory excesses are generated which eventually may have to be disposed of, perhaps at a severe financial loss.

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Inventory levels are influenced by the amount of time between the initiation of a procurement action and the receipt of the item into the supply system. This time frame is known as acquisition lead time, and it consists of two parts: administrative and production lead times.

Administrative lead time is the time interval from the initiation of a procurement action to the contract award, while the production lead time is the interval from the contract award to delivery of the items. Since acquisition lead times are the components' estimates as to when an item will arrive, varying from that expectation results in consequences when items arrive too early or too late.

To promote accuracy and completeness in the management of acquisition lead times, having appropriate policies, procedures, and instructions is an important component of an agency's internal control framework. As discussed in GAO's Internal Control Standards guidance, we identified that other important activities related to information processing systems, performance measures and indicators, and the recording and classification of transactions and events are also necessary.<sup>9</sup> Inventory management and oversight is the shared responsibility between the USD (AT&L) and the military components. USD (AT&L) has overall responsibility for the development of acquisition policies for monitoring the overall effectiveness and efficiency of the DOD acquisition system. The components are responsible for implementing the materiel management policies and activities. The DOD Supply Chain Materiel Management Regulation states that the military components should aggressively pursue the lowest possible acquisition lead times, and in coming up with lead time estimates, they may use contractor information, historical information from representative procurements, technical documentation, or the best judgment of acquisition personnel. It also establishes for the military components overarching guiding principles, assigns responsibility, defines, and provides guidelines for developing acquisition lead time, and states that they should identify and track deviations from normal historical or projected patterns in such areas as demand, stock levels, and lead times.

The military components have an inventory management agency that purchases and delivers items and services to the warfighter. The primary inventory agencies that provide this support to the warfighter are (1) the U.S. Air Force Materiel Command, (2) the U.S. Army Materiel Command,

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<sup>9</sup> GAO, *Internal Control Management and Evaluation Tool*, GAO-01-1008G (Washington, D.C.: August 2001).

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(3) the Defense Logistics Agency, and (4) the Naval Inventory Control Point. Table 1 shows the primary logistics agencies and their inventory management centers.

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**Table 1: Primary Logistics Agencies and Their Inventory Management Centers**

<b>Air Force Materiel Command</b>
Ogden Air Logistics Center
Okalahoma City Air Logistics Center
Warner Robins Air Logistics Center
<b>Army Materiel Command</b>
Aviation and Missile Life Cycle Management Command
Communications-Electronics Life Cycle Management Command
U.S. TACOM Life Cycle Management Command
<b>Defense Logistics Agency</b>
Defense Supply Center Columbus
Defense Supply Center Philadelphia
Defense Supply Center Richmond
<b>Naval Inventory Control Point</b>
Naval Inventory Control Point Mechanicsburg
Naval Inventory Control Point Philadelphia

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Source: DOD.

To implement DOD's acquisition lead time policy, each of the military components developed their own procedures for managing acquisition lead times, and as such, each used slightly different methodologies to calculate their estimated administrative lead time and production lead time values.

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## Actual Lead Times Varied Considerably from Estimated Lead Times for All Components

The military components' acquisition lead time estimates to acquire spare and repair parts varied considerably from the actual lead times experienced. More specifically, estimated lead times for all of the components rarely approximated actual lead times, with only 5 percent of the deliveries we reviewed having actual acquisition lead times that were within 1 week of the estimated lead time. While each of the military components had instances of both underestimated and overestimated lead times, the Army's acquisition lead time estimates were generally understated, while DLA's estimates were generally overstated. The Air Force's and the Navy's estimates were both overstated and understated.

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## Acquisition Lead Time Estimates for All Components Rarely Approximated Actual Lead Times

For the more than one million spare part deliveries we reviewed, the military components' estimated acquisition lead times rarely approximated the actual lead times and were generally either understated or overstated. DOD's Supply Chain Materiel Management Regulation provides guidance for developing materiel requirements based on customer expectations while minimizing the investment in inventories. In addition, accurate lead time estimates are critically important in enabling the military components to have the proper amount of inventory on hand. However, as table 2 shows, 5 percent of the deliveries, totaling about \$700 million, had actual acquisition lead times that were within a week of the estimate. The combined value of the lead time underestimates for all the components resulted in slightly over \$12 billion in spare and repair parts arriving more than 90 days later than expected, which may have negatively affected equipment readiness and overall rates because units may not have had the necessary inventory to support and sustain ongoing military operations. If lead time estimates had been more accurate, orders could have been placed and funds obligated earlier, and in some instances readiness rates could potentially have been improved. Further, the combined value of the lead time overestimates resulted in the military components obligating almost \$2 billion more than 90 days earlier than necessary, which could add to excess on-hand inventories, although spare parts that come in early could potentially improve readiness.

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**Table 2: DOD-Wide Difference in Actual and Estimated Acquisition Lead Times**

	Dollar value (in thousands) of deliveries with variances				Percent of deliveries reviewed with variances					
	>90 days early		Up to 1 week early – Up to 1 week late		>90 days late		>90 days early		Up to 1 week early – Up to 1 week late	
	>1 week to 90 days early	week early	>1 week to 90 days late	– Up to 1 week late	>90 days late	>90 days early	>1 week to 90 days early	week early	>1 week to 90 days late	– Up to 1 week late
Total DOD-wide	\$1,909,523	\$2,041,190	\$699,378	\$2,047,081	\$12,023,766	39.0	44.4	5.0	7.0	4.6

Source: GAO analysis of delivery order information provided by each of the military components.

We reviewed the two parts of acquisition lead time, administrative lead time and production lead time, and found that each of the military components more accurately estimated the administrative portion than the production portion. However, for administrative lead time, the military components' estimates fell within the 1-week range only about 20 percent of the time while production lead time estimates matched the actual production lead times within the 1-week range just over 10 percent of the time. Officials explained that the accuracy of their administrative lead time estimates was better than their production lead time estimates because

they have more management control over their internal processes than over external contractor practices. Officials stated that variability always exists when generating lead time estimates, but they agreed that improved and more reliable lead time estimates can contribute to lower levels of inventory. They also stated that understated lead time estimates can result in backorders or part shortages which may impact a unit's readiness if the needed spare parts are not available when expected, and overstated estimates result in prematurely obligating funds that could have been used for other military needs and can unnecessarily increase inventory levels and associated costs.

### Army Tended to Underestimate Lead Time Estimates

The Army tended to underestimate their acquisition lead times and receive items later than expected. Of the 9,380 Army deliveries we reviewed, more than 58 percent of their actual acquisition lead times were more than 90 days longer than their estimated lead times. This represented about \$10.6 billion worth of inventory arriving later than expected. Additionally, almost 12 percent had actual acquisition lead times that were more than 90 days shorter than their estimated lead times and that resulted in about \$900 million of premature obligations, as shown in table 3.

**Table 3: Army Differences between Actual and Estimated Acquisition Lead Times**

	Dollar value (in thousands) of deliveries with variances					Percent of deliveries reviewed with variances				
	>90 days early	>1 week to 90 days early	Up to 1 week early -- Up to 1 week late	>1 week to 90 days late	>90 days late	>90 days early	>1 week 90 days early	Up to 1 week early – Up to 1 week late	>1 week to 90 days late	>90 days late
<b>ARMY</b>										
AMCOM-Aviation	\$851,500	\$642,284	\$333,998	\$1,193,565	\$10,309,932	11.7	8.0	2.6	15.1	62.7
CECOM	36,274	29,942	5,989	39,034	158,066	17.4	18.1	2.6	13.9	47.9
TACOM-Warren	16,364	85,646	88,560	86,324	147,231	3.5	9.1	22.2	19.4	45.8
<b>Total</b>	<b>\$904,138</b>	<b>\$757,871</b>	<b>\$428,547</b>	<b>\$1,318,923</b>	<b>\$10,615,229</b>	<b>11.8</b>	<b>9.7</b>	<b>4.6</b>	<b>15.3</b>	<b>58.5</b>

Source: GAO analysis of delivery order information provided by Army Materiel Command.

The variances between the Army's actual and estimated lead times occurred, in part, because of miscoding of late deliveries as not representative of future delivery times, lack of accurate lead time data in one of its computer systems, and data input errors. Of the data we examined, most of the underestimates occurred within the Army Aviation and Missile Life Cycle Management Command within the Army Materiel

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Command. This command develops, acquires, fields, and sustains aviation, missile, and unmanned vehicle systems. When this command cannot obtain items, such as landing gear, helicopter blades, and aircraft access doors in accordance with expectations, it can have immediate and serious ramifications on the operational readiness of many units. We found production lead times in 3,863 orders, for items valued at \$10.3 billion of the \$10.6 billion we analyzed, where the actual lead times were more than 90 days later than the estimated lead times. According to our analyses of the command's deliveries received in fiscal year 2005, nearly 63 percent arrived more than 90 days later than expected. Army officials stated that some of the variances between actual and estimated lead times occurred because some actual lead times were miscoded as nonrepresentative by the command's acquisition personnel, who initially believed that certain delivery delays would be short-lived and were not representative of future deliveries. Once Army officials realized the delays were not short-lived, they said that item managers made some adjustments for particular affected items. Army guidance states that lead times should be computed using the most recent representative procurement.<sup>10</sup> However, it does not give clear guidance on when to decide if continuing late contractor deliveries should be considered representative, and any adjustments made to particular affected items would not prevent similar situations from occurring in the future. As a result, actual lead times can be miscoded and excluded from lead time updates, which makes subsequent estimates inaccurate.

Army officials acknowledged that this command has experienced a problem in meeting supply demands for several years, especially after Operation Iraqi Freedom began, because of the surge in demand for their items. The high demand depleted much of the Army's on-hand supply of inventory more quickly than anticipated and replacing the items was difficult since many aviation-related items had long lead times for replacement. At the same time, the Army was unable to order some items as quickly as needed because it lacked sufficient available funds to obligate and process orders. However, Army officials stated that many manufacturers were operating at their highest capacity and placing orders more quickly would not have resulted in the companies actually producing the additional items any faster.

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<sup>10</sup> Army Regulation 710-1, *Centralized Inventory Management of the Army Supply System* (Sept. 6, 2005).

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Officials from the U.S. Army TACOM Life Cycle Management Command in Warren, Michigan made similar statements to explain the lateness of some of their deliveries. They agreed that they had experienced delays in getting items from certain contractors due to the high level of demand. They also acknowledged budgetary constraints during the years of our sample that resulted in hiring freezes and other personnel challenges that added to their workload and hindered their ability to process contracts and orders and to periodically review, validate, and make corrections to any inaccurately recorded lead time estimates.

Army officials also attributed inaccuracies in lead times to input errors that item managers were unable to detect and correct. At the Army's Communications-Electronics Life Cycle Management Command, lead time data are not automatically maintained or updated in the Logistics Modernization Program, which was designed to improve Army maintenance logistical and financial operations, and officials had to manually input the data from the command's older computer system. However, according to Army officials, the heavy workloads of item managers have not allowed them to validate these data to detect and correct any lead time data input errors.

Absent actions by the Army, across each of its Life Cycle Management Commands, to determine when deliveries are representative and should be used to update lead time values, maintain and update lead time data in its new computer system, and validate data input to detect and correct errors, late deliveries and parts shortages will likely continue.

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#### DLA Tended to Overestimate Lead Time Estimates

DLA tended to overestimate its acquisition lead times and receive items sooner than expected. Of the 1,031,779 DLA deliveries we reviewed, almost 40 percent had actual acquisition lead times that were more than 90 days shorter than their estimated lead times. This resulted in about \$568 million being obligated earlier than necessary and inventory arriving earlier than expected. Conversely, only about 3 percent of DLA's deliveries had actual acquisition lead times that were more than 90 days longer than their estimated lead times, totaling approximately \$319 million, as shown in table 4.

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**Table 4: DLA Differences between Actual and Estimated Acquisition Lead Times**

	Dollar value (in thousands) of deliveries with variances				Percent of deliveries with variances					
	>90 days early	>1 week to 90 days early	Up to 1 week early		>90 days late	>90 days early	Up to 1 week			
			-- Up to 1 week late	>1 week to 90 days late			to 90 days early	early – Up to 1 week late		
DLA	\$568,775	\$1,021,343	\$221,812	\$481,150	\$319,184	39.5	45.7	5.0	6.7	3.0

Source: GAO analysis of delivery order information provided by DLA.

DLA manages almost every consumable item the military services need to operate, and according to officials, many of these items have been placed on long-term contracts, thus allowing faster order processing. Since the deliveries from the contractors were also faster, there have been reduced overall acquisition lead times. Even though DLA uses a methodology for computing and maintaining lead time estimates that is more heavily weighted toward the recent actual lead times than the existing ones on file, the process did not compute revised estimates that accurately reflected the rapid improvements being made through their lead time initiatives. Additionally, DLA officials stated that they emphasized business practices that encouraged earlier deliveries as opposed to later ones. They went on to state that the storage and handling costs were minimal, although we were unable to confirm this statement, and being able to meet customers' needs by having the necessary items on hand was most important to them. With the emphasis on meeting or beating the estimated lead times, there is reduced incentive for DLA to adjust its lead times to more precisely reflect actual lead times experienced. Absent actions by DLA to review and revise the methodology and inputs it uses in calculating lead time estimates so that the estimates more precisely reflect its actual experiences, DLA will continue to obligate funds earlier than necessary and have early delivery of items.

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**Air Force Tended to Underestimate and Overestimate Lead Time Estimates**

The Air Force tended to both underestimate and overestimate its acquisition lead times, receiving a significant amount of items both sooner and later than expected. Of the 18,335 Air Force deliveries we reviewed, more than 42 percent had actual acquisition lead times that were more than 90 days longer than estimated. This resulted in about \$528 million worth of inventory that arrived later than estimated. At the same time, about 24 percent had actual acquisition lead times that were more than 90 days shorter than estimated, which resulted in about \$272 million of premature obligations, as shown in table 5.

**Table 5: Air Force Differences between Actual and Estimated Acquisition Lead Times**

	Dollar value (in thousands) of deliveries with variances						Percent of deliveries with variances				
	>90 days early	>1 week to 90 days early	Up to 1 week early – Up to 1 week late	>1 week to 90 days late	>90 days late	>90 days early	>1 week to 90 days early	Up to 1 week early – Up to 1 week late	>1 week to 90 days late	>90 days late	
<b>Air Force</b>											
Ogden, Utah	\$84,826	\$31,463	\$6,816	\$24,778	\$62,539	40.1	15.7	3.3	12.0	28.9	
Oklahoma City	141,986	123,750	23,475	114,317	362,827	18.8	16.0	3.2	16.9	45.1	
Warner Robins	44,852	27,081	3,198	16,081	103,004	22.3	14.5	2.0	13.1	48.1	
<b>Total</b>	<b>\$271,665</b>	<b>\$182,293</b>	<b>\$33,489</b>	<b>\$155,176</b>	<b>\$528,370</b>	<b>23.8</b>	<b>15.7</b>	<b>3.0</b>	<b>15.2</b>	<b>42.3</b>	

Source: GAO analysis of delivery order information provided by the Air Force Materiel Command.

A sample of 30 Air Force deliveries selected from the ones with the greatest variances between actual and estimated lead times provided an explanation for some of these variances. In over half of the sampled late deliveries, the item managers at the air logistics centers had used their standard default lead time values for the estimates. It is the Air Force's standard procedure to use the standard default administrative lead time value for spare parts that have not been bought in more than 5 years, but Air Force guidance does not direct the use of default production lead times for spare parts that have not been purchased for more than 5 years.<sup>11</sup> However, many items we reviewed used the standard default production lead time value because, according to officials, it was an easy estimate for item managers to use given their workload. In these cases, the default values greatly understated the actual lead times and resulted in later arrivals of deliveries to the air logistics centers, which may have negatively impacted their operational units' mission readiness if those items had not been available when needed. Officials said that these default values may not be the best information available, and there might be other information obtained or generated for use in place of the default values. One possibility might be contacting the supplier to determine the current lead time. They noted that the use of these default values could also be an explanation for the overstated lead times as well as the understated lead times. Absent actions by the Air Force to review and validate its default

<sup>11</sup> Air Force Materiel Command Manual 23-1, *Requirement for Secondary Items* (D200A, D200N) (Jan. 5, 2007).

lead time estimates and consider other options for better lead time data, mostly for infrequent buys, parts shortages or early obligation of funds will likely continue.

### Navy Tended to Underestimate and Overestimate Lead Time Estimates

The Navy tended to both underestimate and overestimate its acquisition lead times, receiving a significant amount of items both sooner and later than expected. Of the 19,304 Navy deliveries we reviewed, just over 39 percent had actual acquisition lead times that were more than 90 days shorter than estimated. As a result, about \$165 million worth of inventory arrived earlier than expected and the funds for this inventory were obligated prematurely. In addition, about 28 percent had actual lead times that exceeded their estimates by more than 90 days, which resulted in almost \$561 million of items arriving later than anticipated, as shown in table 6.

**Table 6: Navy Differences between Actual and Estimated Acquisition Lead Times**

	Dollar value (in thousands) of deliveries with variances						Percent of deliveries with variances				
	>90 days early	>1 week to 90 days early	Up to 1 Week early -- Up to 1 week late		>1 week to 90 days late	>90 more days late	>90 days early	>1 week to 90 days early		Up to 1 week early -- Up to 1 week late	
			Up to 1 week early	-- Up to 1 week late				>1 week to 90 days late	>90 days early	>1 week to 90 days late	>90 days late
<b>Navy</b>											
Mechanicsburg	\$70,792	\$29,343	\$6,772	\$30,950	\$82,430	41.2	17.0	3.0	13.1	25.7	
Philadelphia	94,154	50,339	8,759	60,882	478,554	34.9	17.1	3.1	11.8	33.0	
<b>Total</b>	<b>\$164,946</b>	<b>\$79,682</b>	<b>\$15,531</b>	<b>\$91,832</b>	<b>\$560,984</b>	<b>39.3</b>	<b>17.0</b>	<b>3.0</b>	<b>12.7</b>	<b>27.9</b>	

Source: GAO analysis of delivery order information provided by Naval Inventory Control Points at Mechanicsburg and Philadelphia.

Navy officials stated that they believe these variances are acceptable and reasonable due to the variability in generating lead times, especially for ship parts that are bought infrequently. They said that updating the lead time estimates more often would not make the forecasts more accurate because there are not enough observations per item to update more often. We did not evaluate whether more frequent updating of the lead time estimates would improve their accuracy. However, some of the variances between the Navy's actual and estimated lead times occurred because of data input errors. We found input errors in a sample of 30 Navy deliveries selected from the ones with the greatest variances between the estimated and actual lead times that affected the estimates' accuracy. For example, in two cases, the lead time estimates were incorrectly loaded into the ordering system used by the inventory control points at 10 times longer

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than what the correct estimates should have been, and the error was not detected. Also, many of the excessive estimated lead times of the sample items we reviewed could not be explained by Navy officials, who stated there were conflicting lead time data within their records. Until the Navy addresses these concerns by reviewing and validating its lead time data and correcting errors, either parts shortages or early obligation of funds are likely to continue.

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## Management Actions and Initiatives to Reduce Lead Times from 2002 to 2005 Less Effective than Previous Initiatives from 1994 to 2002

USD (AT&L) and the military components' management actions and initiatives to reduce lead times from 2002 to 2005 were less effective overall than previous initiatives from 1994 to 2002. Progress in reducing lead times varied greatly by service from 2002 to 2005, with DLA and the Air Force reducing their lead times by about 3.3 and 4.1 percent annually respectively, while the Navy's lead times remained the same, and the Army experienced an increase in lead times by 0.3 percent annually. Of the various management actions and initiatives taken by the services from 2002 to 2005, some were new and some were continuations of previous initiatives, with each service pursuing varying combinations of initiatives. For example, initiatives to streamline administrative processes were implemented by all military components from 1994 to 2002 and from 2002 to 2005, with DLA and the Air Force more aggressively implementing new initiatives from 2002 to 2005 than did the Army and Navy. In addition, from 1994 to 2002, enhanced USD (AT&L) oversight contributed to the rapid pace of lead time reduction; however, from 2002 to 2005, USD (AT&L) no longer continued to monitor progress made by the components in reducing lead times, and all components experienced reduced management oversight. Moreover, while new initiatives to improve contracting practices were implemented by all military components from 1994 to 2002 and were continued by all components from 2002 to 2005, from 2002 to 2005 DLA and the Air Force began new initiatives to strategically manage relationships with suppliers, while the Army and Navy did not. The military components could have decreased inventory requirements and saved money if more aggressive lead time reductions had been realized from 2002 to 2005 as they had been from 1994 to 2002.

## Slower Rate of Reductions in Lead Times from 2002-2005 than from 1994-2002

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USD (AT&L) and the components' management actions and initiatives to reduce lead times from 2002 to 2005 resulted in a slower rate of reduction in DOD-wide lead times of an average of 0.9 percent annually as compared to an average reduction of 5.6 percent annually from 1994 to 2002. The DOD Supply Chain Materiel Management Regulation gives general guidance stating that the military components should aggressively pursue

the lowest possible acquisition lead times. As shown in table 7, progress in reducing lead times varied by military component from 2002 to 2005. The Army experienced an average annual lead time increase of 0.3 percent per year from 2002 to 2005, as compared to an average yearly reduction of 9.7 percent from 1994 to 2002, in part due to higher demands and supplier capacity issues. The Navy's lead times were unchanged from 2002 to 2005, after decreasing by 2.8 percent from 1994 to 2002. The Air Force reduced its lead times from 2002 to 2005, but at a lower rate than it did from 1994 to 2002. The Air Force reduced its acquisition lead times by an average of 4.1 percent per year from 2002 to 2005, compared to an average yearly reduction of 4.5 percent from 1994 to 2002. Similarly, DLA's acquisition lead times also decreased at a lower rate from 2002 to 2005 than from 1994 to 2002, being reduced by an average of 3.3 percent per year in the former as compared to 6.2 percent per year in the latter.

**Table 7: Lead Time Reductions from 2002 to 2005 Compared to Lead Time Reductions from 1994 to 2002**

Component	Average lead time in days			Reduction FY 1994-2002		Reduction FY 2002-2005	
	FY 1994	FY 2002	FY 2005	Total	Average yearly	Total	Average Yearly
DLA	293	176	159	39.9%	6.2%	9.7%	3.3%
Army	690	305	308	55.8%	9.7%	-1.0%	-0.3%
Navy	522	416	416	20.3%	2.8%	0.0%	0.0%
Air Force	620	430	379	30.6%	4.5%	11.9%	4.1%
<b>DOD Total<sup>a</sup></b>	<b>531</b>	<b>336</b>	<b>327</b>	<b>36.7%</b>	<b>5.6%</b>	<b>2.7%</b>	<b>0.9%</b>

Source: GAO analysis of DOD budget stratification data.

<sup>a</sup>DOD total was collectively determined by averaging all lead times and reductions for the individual items from the military components.

## Military Components Pursued Various Initiatives to Reduce Lead Times with Varying Results

Each of the military components pursued various initiatives to reduce acquisition lead times during both the 1994-2002 and 2002-2005 time periods with varying results. The progress of the military components in reducing lead times varied because each pursued different combinations of new and continued initiatives and management actions. These initiatives and actions generally fell into three areas of focus: streamlining internal administrative processes, improving oversight, and developing relationships with suppliers, as shown in table 8.

**Table 8: Component Initiatives and Management Actions to Reduce Acquisition Lead Times from 1994 to 2005**

Initiative or Management action	DLA		Air Force		Army		Navy	
	'94-'02	'02-'05	'94-'02	'02-'05	'94-'02	'02-'05	'94-'02	'02-'05
<b>Streamlining admin. processes</b>								
-Information technology	— <sup>c</sup>	√ <sup>a</sup>	— <sup>c</sup>	√ <sup>a</sup>	— <sup>c</sup>	√ <sup>a</sup>	— <sup>c</sup>	— <sup>c</sup>
-Process redesign	√	√	√	√	√	√ <sup>b</sup>	√	√ <sup>b</sup>
-Lead time reduction teams	√	√ <sup>b</sup>						
-Pre-loading technical data	—	—	√	√ <sup>b</sup>	√	√ <sup>a</sup>	—	—
<b>Oversight efforts</b>								
-Lead time reduction goal	√	—	√	—	√	—	√	—
-Accurate, historical lead times	√	√	√	√	√	√	√	√
-Tracks savings for initiatives	—	√ <sup>a</sup>	—	—	—	—	—	—
-Managers held accountable	√	√	√	√	√	√	√	√ <sup>a</sup>
-Track results of goals	√	—	—	—	√ <sup>a</sup>	√ <sup>a</sup>	√	√ <sup>a</sup>
-Track results of individual initiatives	—	√ <sup>a</sup>	—	—	—	—	—	—
<b>Strategic supplier relationships</b>								
-Direct vendor delivery	√	√ <sup>b</sup>						
-Strategic supply planning	—	√	—	√	—	—	—	—
-Strategic supplies alliances	—	√	—	√	—	—	—	—
-Long-term strategic contracts	√	√	√	√	√	√	√	√
-Supply chain analysis	— <sup>c</sup>	√ <sup>a</sup>	—	√ <sup>a</sup>	—	— <sup>c</sup>	—	—

Source: GAO analysis of information from DLA, Air Force, Army, and Navy.

Legend: √ = initiative or action underway; — = initiative or action not undertaken.

<sup>a</sup>Initiative or action underway for part of component and/or is not being fully implemented.

<sup>b</sup>Initiative or action already institutionalized and will not generate additional lead time reductions.

<sup>c</sup>Initiative or action planned.

DLA began a number of new initiatives and took several management actions from 2002 to 2005 that have helped it reduce lead times, and it also continued several initiatives that it had instituted from 1994 to 2002. This combination of continued and new initiatives enabled DLA to reduce its average lead time to 159 days. The Air Force also began a number of new initiatives and took several management actions to reduce lead times from 2002 to 2005, while continuing several initiatives that it had instituted from 1994 to 2002. This combination of continued and new initiatives enabled the Air Force to reduce its average lead time from 430 to 379 days from 2002 to 2005. Conversely, although individual Army components began some new initiatives to reduce lead times, the Army began no new

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componentwide initiatives to reduce lead times from 2002 to 2005. Furthermore, the Army has placed less effort in continuing new initiatives, which, combined with higher demands and supplier capacity issues, has resulted in the Army's average lead time increasing from 305 to 308 days from 2002 to 2005. Likewise, the Navy also did not begin any new componentwide initiatives to reduce lead times from 2002 to 2005, resulting in lead times holding steady at 416 days from 2002 to 2005.

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### **Initiatives to Streamline Administrative Processes Implemented by All Components**

Initiatives to streamline administrative processes were implemented or continued by all military components from 1994 to 2002 and from 2002 to 2005, with DLA and the Air Force more aggressively implementing new initiatives from 2002 to 2005 than did the Army and Navy. All components are working to design new information technology systems that could potentially improve administrative lead times. For example, DLA has just transitioned to its newly implemented information technology system, which officials said will help reduce process times for a number of transactions, shaving days off of administrative lead time. The components are also working on noninformation technology solutions. For example, Air Force officials recently said that they completed an initiative to reduce clutter on work desks, which involved redesigning all workspaces so that if an employee is absent, another employee can find any needed document in the absent employee's desk within 5 minutes. They attributed this initiative to preventing bottlenecks that could occur if employees had to search for needed documents and information, potentially delaying the acquisition of items. The Army's information technology initiative has only been implemented at one of its Life Cycle Management Commands and the Navy's is still in the planning stages.

One particular initiative that officials cited as having been effective in reducing administrative lead times for the Air Force and Army over the last decade has been the entering of technical data into the inventory control computer systems for items in stock before a need arises to order them again. According to officials, from 1994 to 2002, the Army in particular made significant progress in reducing lead times because of the entering of technical specification data. Before technical data for items were entered into computers, engineers often had to delay the acquisition process while they prepared technical drawings and wrote technical specifications. These delays ranged from days to several months. By determining technical specifications before there was a need for an item and saving these data in the computer system, officials were able to greatly reduce administrative lead times. They said that already having them in the system helped reduce lead times even when the technical

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specifications subsequently needed changing; however, they added that they have not completed entering technical specifications for all items. Although Army engineers have reduced workloads during certain periods of time when they have fewer orders to process, there are no efforts underway to enter technical specification data during these periods. An Army official indicated they were not entering technical specifications for items where the lead time savings would typically be fewer than 2 weeks, because such savings are not considered significant by Army officials. Army officials, however, made this determination without using any metrics or measures to determine the actual savings or cost of entering technical specifications for items with savings of fewer than 2 weeks.

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#### USD (AT&L) No Longer Provided Oversight and Guidance on Lead Times from 2002 to 2005

From 1994 to 2002, enhanced USD (AT&L) oversight and guidance contributed to the rapid pace of lead time reduction; however, from 2002 to 2005, USD (AT&L) no longer continued to monitor progress made by the components in reducing lead times, and all components experienced reduced management oversight. In 1994, we reported that USD (AT&L) was unaware of the lack of progress made in reducing lead times from 1990 to 1994 because of the absence of adequate oversight information.<sup>12</sup> We also indicated that the data reported by military components did not include historical trends to indicate changes in lead time days before and after the lead time reduction initiatives were begun. Likewise, we reported that the statistics at that time were not comprehensive enough to tie specific initiatives to the lead time reductions experienced for individual initiatives. At the time, however, USD (AT&L) was able to provide a general estimate of the financial benefit of lead time reductions, determining that for each day that the DOD-wide average lead time is reduced, a procurement savings of \$10 million can be realized. If the financial benefits of lead time reductions are the same in 2005 as they were in 1994, the value of the savings in 2005 dollars would be \$12.5 million per day.

On November 23, 1994, USD (AT&L) issued a memorandum to its components emphasizing the importance of fully implementing its guidance on reducing acquisition lead times. On March 8, 1995, according to DOD officials, components were challenged to reduce business process cycle times by at least 50 percent over the next 5 years (from 1995 to 2000). According to DOD officials, guidance and oversight were then

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<sup>12</sup> GAO/NSIAD-95-2.

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applied to acquisition lead times through the budget process. However, by 2002, USD (AT&L) officials said they no longer provided active oversight on acquisition lead time or monitored the progress made by the components in reducing lead times, because management focus shifted from reducing lead times to improving performance on more broad metrics such as backorders. They added that they continued to monitor other broad metrics from 2002 to 2005 and did not establish lead time reduction goals or require standardized reporting of metrics designed to measure reductions in lead times. In addition, with the exception of DLA's Strategic Material Sourcing initiative, USD (AT&L) and component officials said they did not collect data, establish metrics, or measure and report the impact and costs of any specific initiative on lead times. Without this information, USD (AT&L) and the components were unable to provide effective oversight on lead time reduction efforts. Furthermore, from 2002 to 2005, USD (AT&L) officials said they no longer measured the financial impact of lead time reductions on inventories. USD (AT&L) and the components thus have been unable to determine the relative value of pursuing lead time reductions when determining the best use of their resources. The inability to determine the financial impact on inventories of lead time reductions and the projected time saved from the proposed initiatives impedes the ability of decision makers to make informed choices as to which initiatives to implement.

According to officials, without active USD (AT&L) oversight, all components experienced reduced management oversight from 2002 to 2005. Officials from the military components indicated that, because less emphasis was placed on lead times by USD (AT&L), less emphasis was placed on lead times at the component level. These officials said that component managers tend to place enhanced management focus on what they are held accountable for by USD (AT&L). Component officials suggested that renewed emphasis on lead time reduction by USD (AT&L), including the setting of lead time reduction goals, could increase the components' management focus on reducing lead times. Until USD (AT&L) takes steps to exercise oversight as it did from 1994 to 2002, such as reemphasizing guidance, establishing lead time reduction goals, collecting data and establishing metrics to measure progress toward meeting lead time reduction goals, measuring and reporting on the results of individual initiatives, and measuring the financial impact of lead time reductions, the components and USD (AT&L) will not have available the information needed to effectively manage and provide oversight of lead times, hampering their ability to reduce lead times. Further, without this information, USD (AT&L) and the components will not be able to prioritize or reevaluate lead time reduction initiatives, determine the

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relative importance of lead time reduction when making contracting decisions, or determine the cost-effectiveness of lead time reduction efforts.

Subsequent to September 2005, Air Force and DLA officials said they began planning and implementing new efforts to improve oversight, including setting lead time reduction goals, holding managers accountable for lead times, tracking lead times to ensure that goals were met, and regularly reporting lead times to managers. In addition, a new metric is also currently under development by DLA, called attainment to plan, which measures the ability of item supply planners to have material available when needed. DLA officials stated that they anticipate increased focus on lead times will improve performance of this metric. Moreover, USD (AT&L) officials stated they were working with the military components to define a DOD-wide lead time metric. They also stated in August 2006 that they were in the process of awarding a contract to a private company to evaluate if USD (AT&L) oversight of lead times would be worthwhile and stated that they currently were providing no oversight. USD (AT&L) officials indicated that increases in lead times could lead to increases in backorders, and said that they provide oversight on backorders.<sup>13</sup>

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#### Initiatives to Develop Relationships with Suppliers Implemented by Components

Initiatives to develop relationships with suppliers were implemented by all of the military components from 1994 to 2002. All military components implemented initiatives to improve contracting practices from 1994 to 2002 and continued them from 2002 to 2005. For example, each component used initiatives to increase use of long-term contracts to reduce lead times. According to Navy officials, one example of a successful initiative begun in the late 1990s was the Navy's practice of considering lead times as criteria in contract awards for spare parts. Whenever issuing a new contract for spare parts, they said that the Navy sets as a criterion for the bid a 25 percent reduction in the item's production lead time, and by adding this as a factor, the Navy is able to encourage suppliers to reduce lead times.

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<sup>13</sup> Backorders are orders that are held in an unfilled status pending receipt of additional parts or equipment through procurement or repair. DOD's supply chain management improvement plan specifies annual performance targets for backorders for each of the components and DOD overall.

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In addition to continuing these prior initiatives, from 2002 to 2005 the DLA and the Air Force began new initiatives to strategically develop relationships with suppliers. According to DLA and Air Force officials, these new initiatives not only helped reduce lead times by allowing for streamlined and simplified purchasing of items on long-term contracts, but also (1) allow for increased information sharing with suppliers, (2) enable components to leverage their buying power, and (3) empower components to strategically target key items to ensure their availability.

For example, according to DLA officials, their Strategic Material Sourcing initiative is intended to improve procurement for 3.6 million items designated as critical. Items are designated as critical based on a series of factors, then are grouped into categories, with different acquisition strategies being used for different categories of items. Of the 3.6 million items marked as critical, 390,000 were identified for placement on contracts strategically designed to leverage DLA's market power to improve sourcing for these items. By forming alliances with producers of these items, DLA officials told us they have been able to reduce lead times by taking advantage of DLA's buying power and by negotiating contracts that ensure supply availability in otherwise volatile markets. As of August 2006, one-half of these targeted items were already on strategic long-term contracts. According to officials, this initiative has thus far generated \$247 million in gross savings with over \$64 million generated in 2005 alone, while costing only \$5.6 million to implement. These savings do not include savings from reduced storage costs, nor do they include the future savings expected as the program continues. This initiative is also unique in that DLA officials said they are using metrics to measure and report the effectiveness of the initiative, thereby improving accountability. An example identified by Air Force officials is the purchase supply chain management initiative. One of many parts of this initiative aimed at reducing lead times is the use of Commodity Councils to help improve acquisition of select items. Commodity Councils are groups of experts in particular commodity groupings who work together to improve acquisition of these items. They do so through commodity management, which is the process of developing a systematic approach to the entire usage cycle for a group of items. In addition, USD (AT&L) is in the process of implementing a new initiative to improve commodity management DOD-wide. This new initiative seeks to emulate the successes of commodity management programs run by DLA and the Air Force across DOD.

In contrast, the Army and the Navy, while continuing old initiatives, have not developed new initiatives to develop strategic relationships with suppliers for critical items. Army and Navy officials indicated that they are

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content with the lead time reductions experienced and stated that new initiatives were not undertaken because of a lack of USD (AT&L) focus and oversight on lead time reduction. Officials cited ongoing military operations as one of the primary factors diverting attention away from reducing lead times. While the Army and Navy continue to benefit from the lead time reductions generated from past initiatives, until these two components begin initiatives to develop strategic relationships with suppliers, they may be unable to realize the potential benefits from improved supplier relationships and may continue to experience lower rates of lead time reductions than DLA and the Air Force.

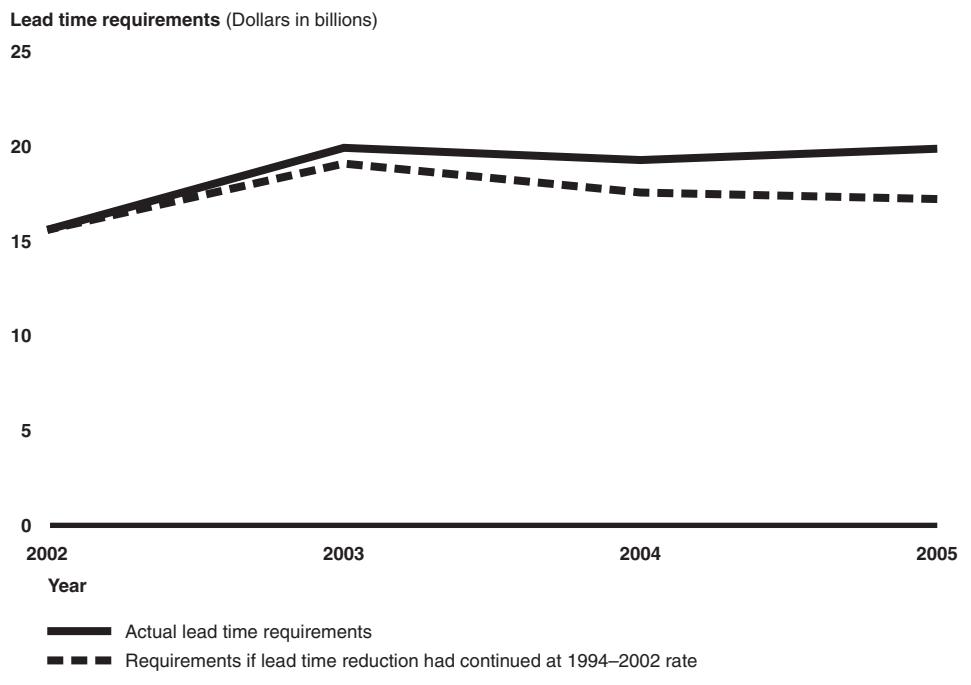
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### More Aggressive Lead Time Reductions Could Have Resulted in Decreases in Inventory Requirements and Monetary Savings

The military components could have decreased inventory requirements and saved money if more aggressive lead time reductions had been realized from 2002 to 2005, as they had from 1994 to 2002. DOD budget documents indicate that inventory requirements to cover lead times increased from \$15.6 billion in 2002 to \$19.9 billion in 2005. According to officials, the primary reason for the increase in inventory has been increased demand due to recent military operations. As a result, even as lead times were reduced by an average of 0.9 percent a year from 2002 to 2005, requirements to cover lead times rose. If the military components had been able to continue reducing lead times by an average of 5.6 percent a year, as they did from 1994 to 2002, the military components' lead time inventory requirements would only have risen to \$17.2 billion, rather than to \$19.9 billion, as shown in figure 1. The additional lead time requirements potentially tied up \$2.7 billion that could have been obligated for other needs.

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**Figure 1: Potential Impact of Reduced Lead Time Inventory Requirements**



In addition to the potential savings associated with decreased inventory requirements, if the military components had been able to continue reducing their lead times at 5.6 percent per year, it would have led to a significant savings from a reduced need to maintain “safety” inventory,<sup>14</sup> which is the amount of inventory the military components maintain on-hand to cover supply and demand fluctuations. This level is determined by a formula that includes a number of factors, including lead times. Reductions in lead times can significantly impact safety inventories needed. Due to reduced USD (AT&L) oversight of lead times, we were unable to determine how reducing lead times would financially impact procurement costs for safety inventories. However, in 1994 we reported that if the components could reduce their overall lead times by 25 percent by 2000, it would lead to a procurement savings of about \$910 million. Until USD (AT&L) and the components take steps to renew their focus on

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<sup>14</sup> Safety level inventory is the quantity of materiel required to be on hand to permit continued operation in the event of a minor interruption of normal replenishment or fluctuation in demand.

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reducing lead times by aggressively continuing prior initiatives and implementing successful new initiatives, the components may continue to experience spare parts shortages and may spend significantly more money to purchase additional inventory.

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## Conclusions

Acquisition lead times are the military components' estimates as to when items will arrive, and varying from that expectation increases the likelihood that the right supplies will not be at the right place at the right time. When the components underestimate their lead time estimates, material shortages and reduced readiness can occur. Without more accurate lead time estimates, the components will not place orders and obligate funds as early as necessary, and they may miss opportunities to potentially improve readiness rates. Conversely, overstated and lengthy acquisition lead time estimates can cause early obligation of funds as well as increases in on-hand inventories, although spare parts that come in early could potentially improve readiness. Until the Army reviews and evaluates when deliveries are representative and should be used to update lead time values, maintains lead time data in each of its computer systems, and validates data input, later than expected deliveries and potential parts shortages will likely occur. In addition, absent actions by DLA to review and revise the methodology and inputs it uses to compute lead time estimates, DLA will continue to obligate funds earlier than necessary and have early delivery of items. Moreover, without taking steps to review and validate default lead time estimates and consider other options for obtaining better lead time data, the Air Force will continue to experience early obligation of funds and potential parts shortages. Finally, until the Navy reviews and validates its lead time data and corrects errors, parts shortages and early obligation of funds are likely to continue. Absent actions by all of the military components to address these problems and institute corrective procedures, their acquisition lead time estimates will continue to vary greatly from their actual lead times.

The military components have also slowed their efforts to reduce acquisition lead times as compared to earlier years. Their current lead time reduction rate may not be significant enough to offset the costs of growing requirements. Until USD (AT&L) and the military components take steps to renew their focus on reducing lead times by continuing prior initiatives and implementing successful new initiatives to streamline administrative processes, improve oversight, and develop strategic relationships with suppliers, they will be unable to significantly reduce lead times as they were able to do in the past. As a result, the military components may potentially spend hundreds of millions of dollars to purchase additional

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inventory. Increased emphasis on improved lead time estimates and overall lead time reductions will improve the military components' ability to efficiently use available resources.

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## Recommendations for Executive Action

To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense take the following six actions.

1. Direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct the Aviation and Missile Life Cycle Management Command to establish clear guidelines for item managers to know when to review and how to determine whether deliveries should be considered representative and thus used to update lead times.
2. Direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct the Life Cycle Management Commands to reemphasize the importance of periodically reviewing and validating their recorded lead time data to detect and correct data input errors and other inaccurate information.
3. Direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct Communications-Electronics Life Cycle Management Command to maintain and update automated lead time data within its Logistics Modernization Program computer system.
4. Direct the Director of DLA to have its supply centers review the methodology and inputs used to compute its lead time estimates and revise them to incorporate recent improvements in DLA actual lead times.
5. Direct the Secretary of the Air Force to have the Commander, Air Force Materiel Command, direct its air logistic centers to use better sources of lead time information, such as supplier estimates, if available, rather than default values for items that have not been ordered in the last 5 years.
6. Direct the Secretary of the Navy to direct the Commander, Naval Inventory Control Point, to reemphasize the importance of having its inventory control points periodically review and validate their recorded lead time data to detect and correct data input errors or other inaccurate information.

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To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to take the following five actions.

1. Establish component lead time reduction goals over a 5-year period from October 2007-2012.
2. Develop metrics to measure components' progress toward meeting lead time reduction goals and require the periodic reporting of these metrics.
3. Develop a general estimate of the financial impact of lead time reductions, and use that as a metric to help components weigh the importance of lead time reductions.
4. Direct the components to collect data, establish metrics, and measure and report the impact of individual lead time reduction initiatives, to include the cost of each initiative and its estimated cost savings.
5. Work closely with the Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times.

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## Agency Comments and Our Evaluation

In written comments on a draft of this report, DOD concurred with eight, partially concurred with one, and did not concur with two of our recommendations. For the eight recommendations with which DOD concurred, the department identified actions and plans that are being taken to implement these recommendations. We agree that most of the identified actions are responsive and reasonable to address our concerns, although in several cases the final actions may not be completely implemented for several years. However, some of the department's comments did not appear to address our concerns. More specifically, for one of the recommendations with which DOD concurred, we do not believe that its comments address our recommendation that the Army maintain and update automated lead time data within its Logistics Modernization Program computer system. In its comments, DOD said that this computer system does not provide automatic updates of data for calculation but it does have information needed to make decisions for manual implementation. As stated in our report, manual input errors have contributed to inaccuracies in lead times, and we believe these inaccuracies will continue if the department relies on manual implementation. We continue to believe that automated updates and

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maintenance of lead time data are needed to improve the accuracy of lead time estimates. Further, DOD stated in its comments that it already had actions underway to address our recommendation to develop metrics to measure progress toward meeting lead time reduction goals. However, the contract for reviewing lead times is not to be awarded until later in fiscal year 2007. Since this effort was not underway at the time of our review, we believe that it is important to recommend that this effort be pursued until fully implemented.

DOD partially concurred with our recommendation that the Under Secretary of Defense for Acquisition, Technology, and Logistics develop a general estimate of the financial impact of lead time reductions, and use that as a metric to help components weigh the importance of lead time reductions. DOD stated that to the extent that financial impact can be estimated, it will be one of the elements considered in a review DOD expects to conclude in 2008. DOD further stated that the challenge in estimating the financial impact of lead time reductions was that there are many other variables, and the effect of individual variables on lead time estimates cannot be separately identified. We recognize that the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics has concerns about its ability to estimate the financial impact of lead time reductions, but note that it was able to provide an estimate of \$10 million in financial impact for each day that lead time was reduced when we published our 1994 report. Moreover, during our review, TACOM officials informed us that they have the ability to simulate the impact of reductions in lead times using their requirements determination process system on an item-by-item basis. The potential savings generated from the simulations could be helpful in estimating the savings from lead time reduction initiatives. We further note that the inability to determine the financial impact of lead time reductions does not provide the needed incentives for the components to reduce lead times and impedes the ability of decision makers to make informed choices as to which initiatives to implement. Therefore, we continue to believe that the recommendation to the Under Secretary of Defense for Acquisition, Technology, and Logistics is valid.

In addition, DOD did not concur with our recommendation to DLA to have the supply centers review the methodology and inputs used to compute its lead time estimates and revise them to incorporate recent improvements in DLA actual lead times. DOD stated that our review used data primarily from DLA's legacy system from 2002 to 2005, which was prior to DLA's implementation of its new computer system called Business Systems Modernization, and stated that consequently the benefits of this new system and processes were not taken into account in our review. While we

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agree that the implementation of this new computer system should provide DLA with more tools to manage acquisition lead times, according to DLA's Cross-Process Policy Memorandum 06-001 dated June 1, 2006, the basic methodology for automatic adjustments to both administrative and production lead times remains the same in the new system as under the legacy system (i.e., each is calculated as a weighted average based on one-third of the existing lead time of record and two-thirds of the actual or new lead time for the current award). Calculating the lead times in the same manner but recording the values in a newly implemented computer system will not improve the accuracy of the lead time estimates. Therefore, we continue to believe that the recommendation to DLA is valid.

Moreover, DOD did not concur with our recommendation that the Under Secretary of Defense for Acquisition, Technology, and Logistics work closely with the Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times. The department stated that it is actively pursuing a joint strategy to develop strategic relationships, and that to instruct the services to develop strategic relationships separately with these suppliers would lead to a duplication of effort and dissipate the department's leverage. We believe that DOD misunderstood our recommendation. The joint strategy initiative that DOD is actively pursuing, according to documentation provided by DOD, is focused on commodity management, not on developing strategic relationships to reduce lead times. Our recommendation calls for the Under Secretary of Defense for Acquisition, Technology, and Logistics to work closely with the Army and Navy to move beyond simply managing the acquisition of individual parts, and to form strategic partnerships with key suppliers for ranges of items in situations where it would be possible to leverage these relationships to reduce lead times. Documentation from DOD further states that DOD's commodity management plan acknowledges that service initiatives will produce improvements, and that it respects those initiatives. Our recommendation, for the Under Secretary of Defense for Acquisition, Technology, and Logistics to work closely with the Army and Navy to develop similar initiatives to those already underway by DLA and the Air Force, is not duplicative of ongoing efforts, but would complement them. Until the Army and the Navy begin initiatives to develop strategic relationships with suppliers, they may be unable to realize the potential benefits from improved supplier relationships and may continue to experience lower rates of lead time reductions than DLA and the Air Force. Therefore, we continue to believe that the recommendation to the Under Secretary of Defense for Acquisition, Technology, and Logistics is valid.

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The department's comments are reprinted in appendix II.

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We are sending copies of this report to the Chairmen and Ranking Minority Members of the Senate Committee on Armed Services; the Subcommittee on Readiness and Management Support, Senate Committee on Armed Services; the Subcommittee on Defense, Senate Committee on Appropriations; the House Committee on Armed Services; the Subcommittee on Readiness, House Committee on Armed Services; and the Ranking Minority Member, Subcommittee on Defense, House Committee on Appropriations. We are also sending copies to the Secretary of Defense; the Secretaries of the Army, Navy, and Air Force; the Director of DLA; and the Under Secretary of Defense for Acquisition, Technology, and Logistics. Copies will be made available to others upon request. Should you or your staff have any questions concerning this report, please contact William M. Solis, Director, at (202) 512-8365 or solisw@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink, appearing to read "William M. Solis".

William M. Solis  
Director, Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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To address our objectives, we reviewed relevant documents, guidance, reports, and other information, as available, which related to acquisition lead times for class IX spare parts and any initiatives the Department of Defense (DOD) or the military components were undertaking in this area. We also interviewed cognizant officials within the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics); the Defense Logistics Agency Headquarters; the Army Materiel Command Headquarters; Headquarters Air Force, the Deputy Chief of Staff, Installations, and Logistics, Inventory Management and Stockage Branch; and the Naval Supply Systems Command, Naval Inventory Control Point-Mechanicsburg, Pennsylvania. We also performed additional work at the Air Force Materiel Command Headquarters at Wright-Patterson Air Force Base, Ohio, had discussions with officials at the U.S. Army Tank Automotive and Armaments (TACOM) Life Cycle Management Command in Warren, Michigan, and obtained data from U.S. Army Communications-Electronics Life Cycle Management Command, U.S. Army Aviation and Missile Life Cycle Management Command, and the Naval Inventory Control Point-Philadelphia, Pennsylvania.

To examine the extent to which the military components' estimated lead times varied from actual lead times, we obtained and reviewed information from each military component concerning any relevant policies, procedures, regulations, instructions, or memorandums about acquisition lead time development, maintenance, or management. We also obtained information regarding the processes used by the military components in generating their acquisition lead times from discussions with cognizant officials. To test the accuracy of the military components in estimating the acquisition lead times and the related actual arrival of items ordered, we requested that each military component provide us with a data file that contained the following information for class IX spare parts they each received between October 1, 2004, and September 30, 2005:

- item name,
- item NSN,
- date ordered,
- ordered from what company,
- quantity ordered,
- date delivered,
- quantity delivered,
- where delivered,
- purchase order number or some other financial related reference,
- cost per item,

- 
- total cost of order,
  - forecasted/on-file administrative lead time for item at time of order,
  - forecasted/on-file production lead time for item at time of order, and
  - overall acquisition lead time for item.

For DLA and the Air Force, we obtained data that covered deliveries to all three of their supply centers and Air Logistic Centers, respectively. In regard to the Army, we obtained data from three Life Cycle Management Commands: TACOM, Communications-Electronic, and Aviation and Missile. We also obtained data from the Naval Inventory Control Points that are located in Mechanicsburg, Pennsylvania and Philadelphia, Pennsylvania. We compared the forecasted/on-file estimated lead times for each delivery with the actual lead times experienced, and then grouped the variances into five different categories. The categories were the actual lead time (1) was within plus or minus 1 week from the estimated lead time, (2) was greater than 1 week to less than 90 days earlier than the estimated lead time, (3) was 90 or more days earlier than the estimated lead time, (4) was greater than 1 week to less than 90 days later than the estimated lead time; and, (5) was 90 or more days later the estimated lead time. For all of the records in each category, we calculated the percent of records in each category as compared to the total number of records reviewed and also calculated their dollar value. We took steps to ensure the reliability of the data we used in our review. We provided a list of specific data elements to the Army, Navy, Air Force, and DLA officials. The military components returned the requested information to us. To assess the reliability of these data, we reviewed the data for obvious inconsistency and completeness errors. In addition, we worked with agency officials to identify any data problems. When we found discrepancies (such as nonpopulated fields or data discrepancies), we brought them to the officials' attention and worked with them to correct the errors. In addition, we sent an electronic questionnaire with questions regarding our use of the data and followed up on issues we believed were pertinent regarding the reliability of the data. Based on these efforts, we determined that the data were sufficiently reliable for the purposes of our report.

To examine the extent to which military components' current management actions, initiatives, and other programs have reduced lead times and affected inventory and budget requirements, we obtained and reviewed information from each military component concerning any relevant policies, procedures, regulations, instructions, or memorandums regarding

efforts, policies, actions, or initiatives to reduce lead times. We also interviewed officials within the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics); the Defense Logistics Agency Headquarters; the Army Materiel Command Headquarters; Headquarters Air Force, The Deputy Chief of Staff, Installations, and Logistics, Inventory Management and Stockage Branch; and Naval Supply Systems Command, Naval Inventory Control Point-Mechanicsburg, Pennsylvania. We also performed additional work at the Air Force Materiel Command Headquarters at Wright-Patterson Air Force Base, Ohio and had discussions with officials at the U.S. Army TACOM Life Cycle Management Command in Warren, Michigan. We further examined budget stratification data from the Army, Navy, Air Force, and the Defense Logistics Agency. Using that budget stratification data, we reviewed all items present in the September 30 budget stratification reports for both 2002 and 2005 to determine the changes in average acquisition lead time for those items. We were unable to obtain budget stratification data for the components for 1994, and thus simply reported the results of our 1994 GAO report evaluating overall lead times for each component. Additionally, we requested and analyzed the summary budget stratification reports for all components for September 2002 through September 2005 to determine any changes in average acquisition lead time and budget requirements from 2002 to 2005. Based on our efforts, we determined that the data were sufficiently reliable for the purposes of our report.

We conducted our work from November 2005 through November 2006 in accordance with generally accepted government auditing standards.

# Appendix II: Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR  
LOGISTICS AND MATERIEL READINESS  
3500 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3500

FEB 5 2007

Mr. William Solis  
Director, Defense Capabilities and Management  
U.S. Government Accountability Office  
Washington, DC 20548

Dear Mr. Solis:

This is the Department of Defense (DoD) response to the GAO draft report GAO-07-281, "DEFENSE INVENTORY: Opportunities Exist to Improve the Management of DoD's Acquisition Lead Time For Spare Parts" dated December 20, 2006 (GAO Code 350760). The GAO draft report provides 11 recommendations, 6 of which are actions required by the Military Services and DLA and 5 of which are actions recommended for the USD(AT&L). The DoD concurs with 8, partially concurs with 1, and nonconcurs with 2 of the recommendations in the report. Actions being taken on each of the recommendations are identified in the enclosure.

As indicated in the GAO report, the Military Services and DLA reduced acquisition lead times each of the years GAO reviewed (FY 2002 – FY 2005). These reductions were achieved through DoD component initiatives even though the Department and industrial base are operating in a surge capacity in support of the Global War on Terror. We concur with 5 of the 6 recommendations to the Military Services and DLA. We nonconcur on the recommendation for DLA to have its supply centers to review and revise lead times because the DLA information used in forming the recommendation was from the DLA legacy system and did not consider improvements realized by implementation of the DLA Enterprise Resource Planning solution, Business Systems Modernization.

Recommendations in the report directed to the USD(AT&L) identify actions that the Department already had underway prior to the review. As we indicated at the initial meeting with GAO, the Supply Metrics Group was formed in 2005 to develop and monitor key supply metrics within the Department, and Acquisition Lead Time is one of these metrics. Additionally, the Supply Metrics Group had already initiated a request for a lead time review to determine if there is a need for additional lead time reduction initiatives. This review is funded and the contract will be awarded in FY 2007. We nonconcur with the recommendation for the Army and Navy to develop its own strategic relationships. All of the Military Services and DLA have been fully engaged in our Commodity Management initiative that establishes joint teams to look at all aspects of a commodity supply chain, including joint strategic relationships with suppliers. Single Military Service initiatives run counter to our Base Realignment and Closure Supply and Storage efforts.

Detailed comments on the draft report recommendations are included in the enclosure. The DoD appreciates the opportunity to comment on the draft report.

*Jack Bell*  
Jack Bell

Enclosure:  
As stated



**GAO DRAFT REPORT – DATED December 20, 2006  
GAO CODE 350760/GAO-07-281**

**"DEFENSE INVENTORY: Opportunities Exist to Improve the Management of  
DoD's Acquisition Lead Time For Spare Parts"**

**DEPARTMENT OF DEFENSE COMMENTS  
TO THE RECOMMENDATIONS**

**RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command direct the Aviation and Missile Life Cycle Management Command to (a) establish clear guidelines for item managers to know when to review and how to determine whether deliveries should be considered representative and thus used to update lead times. (Pages 36-37/GAO Draft Report)

**DOD RESPONSE:** Concur. Army Materiel Command (AMC) is working with the Life Cycle Management Commands, Rand, IBM and University of Alabama to document these processes and establish appropriate guidelines in strategic sourcing efforts across AMC. Full implementation and compliance will be completed by the end FY 2008.

**RECOMMENDATION 2:** The GAO recommended that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command direct the Life Cycle Management Command to re-emphasize the importance of periodically reviewing and validating their recorded lead time data to detect and correct data input errors and other inaccurate information. (Page 37/GAO Draft Report)

**DOD RESPONSE:** Concur. Army continues to work data quality issues across all areas and have specified Acquisition Lead Time (ALT) calculation data for special emphasis. The Army's created the Single Army Logistics Enterprise (SALE) initiative to implement the most efficient and effective means of integrating strategic, operational, and tactical logistics functions into a fully integrated, end-to-end Army logistics enterprise solution. Improved visibility provided under SALE should enable managers to clearly see issues and impacts of data quality. SALE will be fully implemented across the LCMC by the end of FY 2010.

**RECOMMENDATION 3:** The GAO recommended that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command direct Communications-Electronics Life Cycle Management Command to maintain and update automated lead time data within its Logistics Modernization Program computer system. (Page 37/GAO Draft Report)

**DOD RESPONSE:** Concur. Army Logistics Modernization Program (LMP) does not provide automatic updates of data for calculation of ALT, but LMP does maintain and provide

managers with the information they need to make these decisions for manual implementation. LMP implementation will be complete FY 2010.

**RECOMMENDATION 4:** The GAO recommended that the Secretary of Defense direct the Director, Defense Logistics Agency to have its supply centers review the methodology and inputs used to compute its lead time estimates and revise them to incorporate recent improvement in DLA actual lead times. (Page 37/GAO Draft Report)

**DOD RESPONSE:** Nonconcur. Data examined by GAO was primarily legacy system data from 2002 to 2005 and does not reflect the changes incorporated into the recently completed Defense Logistics Agency (DLA) implementation of its new Enterprise Resource Planning (ERP) called Business Systems Modernization (BSM). The transition to BSM was completed in December 2006 with most of the DLA managed items transitioning into BSM during the 2006 calendar year. Therefore, the benefits of the new system and processes, including more accurate management of acquisition lead times, were not part of the examination GAO completed in their review.

**RECOMMENDATION 5:** The GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to have the Commander, Air Force Material Command to direct its air logistics centers to use better sources of lead time information, such as supply estimates, if available, rather than default values for items that have not been ordered in the last 5 years. (Page 37/GAO Draft Report)

**DOD RESPONSE:** Concur. By February 2007, the Air Force will direct the Air Force Material Command to direct the air logistics centers to use better sources of lead time information as the GAO recommended.

**RECOMMENDATION 6:** The GAO recommended that the Secretary of Defense direct the Secretary of the Navy to direct the Commander, Naval Inventory Control Point to re-emphasize the importance of having its inventory control points periodically review and validate their recorded lead time data to detect and correct data input errors or other inaccurate information. (Pages 37-38/GAO Draft Report)

**DOD RESPONSE:** Concur. The Navy has in place a robust set of acquisition lead time forecasting and review processes as presented during the audit. By February 2007, the Navy will reiterate requirements to ensure routine application of its review tools.

**RECOMMENDATION 7:** The GAO recommended that the Secretary of Defense direct the Under Secretary of the Defense for Acquisition, Technology and Logistics to establish component lead time reduction goals over a 5-year period from October 2007-2012. (Page 38/GAO Draft Report)

**DOD RESPONSE:** Concur. As GAO indicated, lead times are being reduced but at a slower pace than in previous years. Lead time is currently a component level metric and reduction goals are set by each component. However, DoD is already in-process of developing a

Department level metric and conducting a lead time review that will include an assessment of the need for additional lead time reduction goals and metrics. The need for additional goals will be determined upon completion of the assessment. Assessment is to begin 3<sup>rd</sup> quarter FY 2007 with a 6 month estimated completion date.

**RECOMMENDATION 8:** The GAO recommended that the Secretary of Defense direct the Under Secretary of the Defense for Acquisition, Technology and Logistics to develop metrics to measure components' progress toward meeting lead time reduction goals and require the periodic reporting of these metrics. (Page 38/GAO Draft Report)

**DOD RESPONSE:** Concur. As GAO indicated, lead times are being reduced but at a slower pace than in previous years. Lead time is currently a component level metric and reduction goals are set by each component. However, DoD is already in-process of developing a Department level metric and conducting a lead time review that will include an assessment of the need for additional lead time reduction goals and metrics. The need for additional goals will be determined upon completion of the assessment. Assessment is to begin 3<sup>rd</sup> quarter FY 2007 with a 6 month estimated completion date.

**RECOMMENDATION 9:** The GAO recommended that the Secretary of Defense direct the Under Secretary of the Defense for Acquisition, Technology and Logistics to develop a general estimate of the financial impact of lead time reductions, and use that as a metric to help components weigh the importance of lead time reductions. (Page 38/GAO Draft Report)

**DOD RESPONSE:** Partially concur. The DoD components already realize the importance of accurate lead times and, as GAO pointed out, lead times dropped over the timeframes they reviewed. However, DoD is in process of developing a Department level metric and conducting a lead time review that will include an assessment of the need for additional lead time reduction goals and metrics. To the extent that financial impact can be estimated, it will be one of the elements considered in the review. As we indicated to GAO during the review, the challenge with estimating financial impact of lead time reductions is that there are many other variables, such as demand variability, that effect safety level and the impact of the individual variables on the forecast cannot be separately identified. Assessment is to begin 3<sup>rd</sup> quarter FY 2007 with a 6 month estimated completion date.

**RECOMMENDATION 10:** The GAO recommended that the Secretary of Defense direct the Under Secretary of the Defense for Acquisition, Technology and Logistics to direct the components to collect data, establish metrics, and measure and report the impact of individual lead time reduction initiatives, to include the cost of each initiative and its estimate cost savings. (Page 38/GAO Draft Report)

**DOD RESPONSE:** Concur. As GAO indicated, lead times are being reduced but at a slower pace than in previous years. Lead time is currently a component level metric and reduction goals are set by each component. However, DoD is in-process of conducting a lead time review that will include an assessment of the need for additional lead time reduction goals and metrics. If the assessment results in additional initiatives, the DoD Components will be

requested to measure and report the impact of the reduction initiatives. Assessment is to begin 3<sup>rd</sup> quarter FY 2007 with a 6 month estimated completion date.

**RECOMMENDATION 11:** The GAO recommended that the Secretary of Defense direct the Under Secretary of the Defense for Acquisition, Technology and Logistics to work closely with Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times. (Page 38/GAO Draft Report)

**DOD RESPONSE:** Nonconcur. All Services and DLA share a common group of key suppliers, with a high degree of commonality in many of the items purchased. To instruct the Services to develop strategic relationships separately with these suppliers would lead to duplication of effort and dissipation to the Department's leverage. DoD is actively pursuing a joint strategy to leverage DoD's buying power, manage its supplier base, and to build relationships with key suppliers to improve supply chain performance, and this is the stated direction of the Base Realignment and Closure implementation as well. The Department will achieve optimal results by speaking to its supply base about common objectives with one voice, and this recommendation works against that.

# Appendix III: GAO Contact and Staff Acknowledgments

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## GAO Contact

William M. Solis, (202) 512-8365

## Acknowledgments

In addition to the contact listed above, Lawson Gist, Jr., Assistant Director, Rebecca Beale, Christopher Miller, Terry Richardson, Grant Mallie, Catherine Hurley, Minette Richardson, Nancy Hess, Art James, Renee Brown, Gayle Fischer, Kenneth Patton, and Nicole Harms made key contributions to this report.

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## Public Affairs

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